

OPPORTUNITIES AND BARRIERS TO DISTRIBUTED GENERATION

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Why does Texas want DG?

- ★ Competitive options for customers to manage risks, costs, reliability and power quality
- ★ Moderate capacity adequacy and voltage stability problems in transmission-constrained areas
- ★ Mitigate market power and facilitate demand response to price spikes
- ★ Improve grid cost-effectiveness, diversity
- ★ Improve environmental impacts of energy

What Texas has done for DG

- ❖ Wholesale electric competition since 1995, retail competition starting in 2001, 2002
- ❖ Open access T&D at terms and conditions standardized across all IOU-transmission & distribution utilities
 - ★ ERCOT ISO in operation since 1996; loads pay
 - ★ postage stamp transmission pricing
 - ★ network transmission system begins at the power plant busbar

Enabling DG in Texas

- ★ Standardized, streamlined DG technical interconnection guidelines, application and agreement (adopted in 10/99) to reduce transactions costs for DG applicants
 - ★ burden of proof on utility to show why interconnection shouldn't occur
- ★ No stranded cost charges for DG ≤ 10 MW
- ★ DG interconnection manual explains costs, benefits of DG, interconnection engineering and math analyses, rules, process
- ★ Working on DG pre-certification program, ISO protocols

What was easy?

- ★ Statutory right for customers to get DG, utility functional unbundling, and prohibition against wire company owning generation
- ★ Getting agreement between engineers on most basics of how to do DG interconnection that protects grid reliability and utility personnel
- ★ Getting ISO to recognize value of DG, storage and energy efficiency to the grid, and to facilitate their incorporation in ERCOT's operating protocols
- ★ Standardized, streamlined process development

What was hard?

- ★ Getting utilities to recognize that progress on DG is going to happen now, not later
- ★ Eliminating lots of miscellaneous, costly charges the utilities impose on DG
- ★ Getting acceptance that the total grid benefits from DG justify utility acceptance of reasonable costs to accommodate new DG interconnection
- ★ Getting DG to recognize that they have to find buyers in the wholesale market, not lean on the utility as a forced purchaser
- ★ Recognize utility benefits from DG but don't require that it pay for them

Has it worked yet?

- ★ Not yet -- lots of talk, but not much new DG on the ground yet
- ★ DG vendors still trying to compete against the utility bill, not offering customer a sound value proposition that mixes energy efficiency with reliability, PQ protection
- ★ Utilities aren't used to letting customers make their own choices
- ★ Utilities starting to recognize the value of strategic deployment of DG and efficiency to cope w/ transmission-constrained areas

What's next for Texas and DG?

- ★ Finishing pre-certification program
 - ★ looking at reciprocity with New York type-tested units
- ★ Final wireco rate designs being completed, that are DG-neutral or helpful
- ★ Final ERCOT protocols being completed, including demand-response and how to handle intermittent resources
- ★ Encouraging Dallas-Fort Worth utilities to use third-party DG for capacity and voltage support
- ★ TNRCC air emissions standards in development

Texas wants DG!

- ★ We're trying to make it easy and uncomplicated to use DG to meet customers' and utilities' needs